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Mass spectrometric imaging of rhizomes of *Curculigo orchioides* and their bioactivities

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Statement of the Problem: Medicinal plants provide a wide range of secondary metabolites and play important role in the treatment of serious disorders. Plants facilitate healing that is potent, profound and life affirming. The present study was aimed to determine the secondary metabolites, antibacterial activity and anti-proliferative activity of *Curculigo orchioides*.

Methodology & Theoretical Orientation: The secondary metabolites of *Curculigo orchioides* were identified by gas chromatography-mass spectrometry (GC-MS). Antibacterial activity was determined against bacterial strains *Escherichia coli*, *Pseudomonas aeruginosa*, *Streptococcus pyogenes* and *Staphylococcus aureus* and antiproliferative activity was evaluated against hepatocellular carcinoma (HepG2 cell line).

Findings: GC-MS analysis of alcoholic extract revealed the presence of pharmacologically active compounds like d-Lyxod-manno-nononic-1,4-lactone; 3',8,8'-Trimethoxy-3-piperidyl-2,2'-binaphthalene-1,1',4,4'-tetrone; 7-Methyl-Z-tetradecen-1-ol acetate; Paromomycin; Geranyl isovalerate; tert-Hexadecanethiol; 1,2-Propanediol, 3-(tetradecyloxy); n-Hexadecanoic acid; 9-Octadecenoic acid, (2-phenyl-1,3-dioxolan-4-yl)methyl ester, trans and 2H-Cyclohepta[b] furan-2-one and 6-[1-(acetyloxy)-3-oxobutyl] -3,3a,4,7,8,8a-hexahydro-7-methyl-3-methylene. Alcoholic extract of *Curculigo orchioides* showed significant activity against bacterial pathogens and HepG2 cell lines.

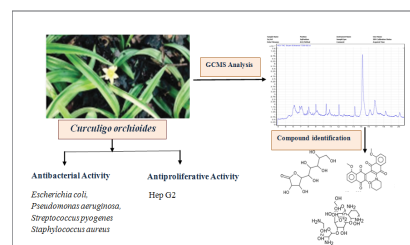


Figure (1): Showing identified phytoconstituents and their bioactivities.

Conclusion & Significance: The data obtained from GC-MS can be used to study the therapeutic efficacy of secondary metabolites, while alcoholic extract showed significant antibacterial and anti-proliferative activity.

Biography

Deepa Yadav is pursuing her PhD from School of Studies in Zoology, Jiwaji University, Gwalior, Madhya Pradesh. She was awarded with JRF of MPCST, Bhopal, Madhya Pradesh. She has been awarded for best paper presentation by UGC-CRO Bhopal. She has published a book entitled *Studies on T Cell Signalling Mechanisms*. Her areas of research interest include Molecular Immunology, Pharmacology, Toxicology and Cancer Prevention.

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